WHAT IS CLAIMED IS:

1. A method of mechanically treating a substrate, the method comprising the steps of:

(a) providing a substrate for mechanical treatment, the substrate selected from the group consisting of a rigid disk or a rigid disk substrate;

(b) providing an abrasive article in contact with the substrate at a pressure, the abrasive article comprising:

a backing having a first major surface and a second major surface; and

an abrasive coating consisting essentially of:

a hardened binder coating having a first surface adhered to the flexible backing and a second structured surface comprising a plurality of precisely-shaped protrusions; and

a diamond-like carbon coating superposed and adhered to at least a portion of the structured surface of the hardened binder coating; and

(c) moving at least one of the substrate and the abrasive article relative to the other to provide the mechanical treatment.

2. The method of claim 1, wherein the mechanical treatment is texturing, buffing, or cleaning.

3. The method of claim 1, wherein the substrate is a rigid disk substrate comprising a metal base having opposite major surfaces and a metal coating formed on at least one of the major surfaces.

4. The method of claim 1, wherein the substrate is a rigid disk substrate comprising glass or ceramic.

5. The method of claim 1, wherein the substrate is circular having a center and wherein step (c) comprises rotating the substrate about the center to form substantially circumferential scratches in the substrate.

6. The method of claim 1, further including the step of:

introducing a liquid between the abrasive article and the rigid disk or rigid disk substrate.

7. The method of claim 1, wherein step (c) comprises oscillating the abrasive article in a direction substantially perpendicular to a direction of travel of the substrate.

8. The method of claim 1, wherein said plurality of precisely-shaped protrusions have shapes selected from the group consisting of cubes, prisms, cones, truncated cones, pyramids, and truncated pyramids.

9. The method of claim 1, wherein said backing has a machine direction axis and opposite side edges, each side edge being parallel to said machine direction axis, wherein said structured surface comprises a plurality of parallel elongate ridges deployed in fixed position on said backing, wherein each of said ridges intersects said side edges at an angle from about 0 degrees to about 90 degrees.

10. The method of claim 9, wherein said parallel elongate ridges each comprise a continuous protrusion of hardened binder extending continuously between the side edges of the backing.

11. The method of claim 9, wherein said protrusion is a pyramidal shape having an apex and sides, said sides intersecting at said apex to form an angle therebetween of from about 70 to about 110 degrees.

12. The method of claim 9, wherein said ridges each comprise a plurality of separate precisely-shaped protrusions aligned with transverse centers located on said longitudinal axis.

13. The method of claim 12, wherein each of said protrusions comprises a pyramidal shape having at least three sides.

14. The method of claim 13, wherein said pyramidal shape comprises a truncated pyramidal shape.

15. The method of claim 1, wherein the diamond-like carbon coating has a thickness ranging from about 5 nm to 1 micrometer.

16. The method of claim 1, wherein the diamond-like carbon coating has a plasmon energy greater than about 26 eV.

17. The method of claim 1, wherein the backing is polyethylene terephthalate film having a thickness between about 25 and 125 micrometers.

18. The method of claim 1, wherein the binder is an acrylate or a methacrylate.

19. The method of claim 1, wherein the binder is free of abrasive particles.

20. An abrasive article comprising:

a backing having a first major surface and a second major surface; and

an abrasive coating consisting essentially of:

a hardened binder coating having a first surface adhered to the flexible backing and a second structured surface comprising a plurality of precisely-shaped protrusions; and

a diamond-like carbon coating superposed and adhered to at least a portion of the structured surface of the hardened binder coating.

21. The abrasive article of claim 20, wherein said plurality of precisely-shaped protrusions have shapes selected from the group consisting of cubes, prisms, cones, truncated cones, pyramids, and truncated pyramids.

22. The abrasive article of claim 20, wherein said backing has a machine direction axis and opposite side edges, each side edge being parallel to said machine direction axis, wherein said structured surface comprises a plurality of parallel elongate ridges deployed in fixed position on said backing, wherein each of said ridges intersects said side edges at an angle from about 0 degrees to about 90 degrees.

23. The abrasive article of claim 22, wherein said parallel elongate ridges each comprise a continuous protrusion of hardened binder extending continuously between the side edges of the backing.

24. The abrasive article of claim 22, wherein said protrusion is a pyramidal shape having an apex and sides, said sides intersecting at said apex to form an angle therebetween of from about 70 to about 110 degrees.

25. The abrasive article of claim 22, wherein said ridges each comprise a plurality of separate precisely-shaped protrusions aligned with transverse centers located on said longitudinal axis.

26. The abrasive article of claim 25, wherein each of said protrusions comprises a pyramidal shape having at least three sides.

27. The abrasive article of claim 26, wherein said pyramidal shape comprises a truncated pyramidal shape.

28. The abrasive article of claim 20, wherein the diamond-like carbon coating has a thickness ranging from about 5 nm to 1 micrometer.

29. The abrasive article of claim 20, wherein the diamond-like carbon coating has a plasmon energy greater than about 26 eV.

30. The abrasive article of claim 20, wherein the backing is polyethylene terephthalate film having a thickness between about 25 and 125 micrometers.

31. The abrasive article of claim 20, wherein the binder is an acrylate or a methacrylate.

32. The abrasive article of claim 20, wherein the binder is free of abrasive particles.